It is the aim of the author to state as fully as may be the constitution of every substance concerning which any thing is said, and original sources of information are indicated when known. For the convenience of readers who do not have access to large libraries, reference is also made to such related matter as may be found in Watt's 'Dictionary of chemistry,' or in the Journal of the Chemical society in London. The system of arrangement is simple, and the material accessible. The work, far more complete and convenient than any thing of its scope previously attempted, is a monument of patient industry intelligently applied.

— The wealth and thoroughness of information contained in Dr. O. Stoll's book on Guatemala (*Guatemala*, Leipzig, *Brockhaus*, 1886, 8°) shows at sight that the author is not one of the common travellers trying to perpetuate the memory of their sights in foreign countries. Stoll's main purpose in expatriating himself for five years to practise medicine in a land like that, was the thorough study of the aborigines. This enabled him to acquaint himself fully with the history, customs, and habits of the Indians, Ladinos, and whites in the western part of the country, where he resided. The results of his studies of the Indian antiquities and languages he published in a previous work, reserving for his 'Guatemala' the recital of his travels, which, from Guatemala City, extended over the east and south also, the political history, statistics, mode of life of the inhabitants, and general remarks upon the country. The numerous shortcomings and barbaric customs of the population do not excite in the writer a spirit of rancor, implacable hatred, or justifiable irony; for in most instances he simply presents to the reader, in frank and unmistakable terms, what he has seen and heard, and then leaves it to him to judge for himself. The tyrannic mode of ruling inaugurated by Barrios, the late president, forms a chapter too interesting to be skipped over.

LETTERS TO THE EDITOR.

**** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Barometer exposure.

MR. H. HELM CLAYTON'S interesting letter on the above topic (*Science*, vol. vii. p. 484) is not quite so satisfactory as his previous communication on thermometer exposures. He seems to think that "the facts all suggest that the wind, in blowing by at right angles to the cracks and crevices in the building, produces a mechanical effect, which tends to draw the air out of the building, and decrease the pressure inside."

Until it is incontestably established by observation that such fluctuations in the height of the barometer as he cites are peculiar to indoor barographs, it seems to me quite premature to ascribe them to the rarefaction of the air within the building. It certainly would be more satisfactory to the physicist, had Mr. Clayton made comparisons of the simultaneous indications of indoor and outdoor barographs. The observed facts are, that fluctuations of wind-velocity correspond with fluctuations of air-pressure. In some cases it may be difficult to decide which is cause, and which is effect. Certainly, in ordinary cases, the alteration of air-pressure is the cause, and wind is the effect. But if, in certain cases, it can be shown that indoor barometers are differently affected from outdoor ones, there would be rational grounds for reversing the usual relation of cause and effect. If such is actually the case, it certainly is an important item in barometric records.

JOHN LECONTE.

Berkeley, Cal., June 8.

Amblystoma and Gordius.

Recently a fine specimen of Amblystoma mavortium, presented me by Professor Sedgwick, was seen to be greatly distressed in its left fore-arm. The arm was swollen to its utmost; and, holding it out at right angles to the body, the 'salamander' seemed quite unable to use either arm or fingers. Enlargement of a small pore, in a prominence near the base of the little finger, behind the carpals, disclosed the cause of the trouble in a robust hair-worm a little less than five inches in length and nearly one-twentieth of an inch in diameter. Posteriorly two-thirds of the worm's body was of a light pink or flesh color; in front of this it was darker, except about three-quarters of an inch at the head, where it was almost white. The worm was coiled among the muscles of the fore-arm, and did not appear to have wrought them any injury, the member in a few days being as useful as its fellow.

Submitted to Dr. Fewkes, the parasite was pronounced an undetermined species of Gordius.

S. GARMAN.

Mus. comp. zoöl., June 10.

Penetrating-power of arrows.

I notice in *Science* for June 11 a short letter concerning the penetrating-force of arrows.

I have made the following experiment with a Chinese bow and Japanese arrows: length of bow unstrung 5 feet 11 inches; length of string 5 feet 8 inches; length of arrow 35 inches, weight of same 2¾ ounces; height of feathers ⅝ of an inch, length of same 4 inches.

The bow has a strength of 110 pounds when the string is pulled back 34 inches: it is made of whalebone and bamboo cut in long strips and glued together.

At 50 yards the entire arrow passes through an inch plank of clear pine wood. At the same distance, with oak of the same thickness instead of pine, the board is penetrated by the head of the arrow, but the shaft is shattered to small pieces. With a live pigeon at 20 yards, hit anywhere, the entire arrow passes through intact.

L. O. KELLOGG.

Oswego, N.Y., June 12.